

03—345 Checking and correcting adjustment of TDC transmitter

Tightening torque	Nm
Nuts for cylinder head cover	15

Special tools

Pressure lever for valve spring	123 589 03 61 00
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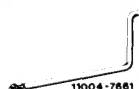
Socket 27 mm, 1/2" square for rotating engine	001 589 65 09 00
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Magnetic finger	116 589 06 63 00
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Measuring extension	123 589 09 63 00
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Locating device for adjusting slide	102 589 03 21 00
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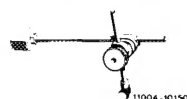
Assembly mandrel for valve stem seals, intake 9 mm dia.	116 589 00 43 00
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Valve adjusting wrench 17 mm	110 589 00 01 00
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Magnetic dial gauge holder	363 589 02 21 00
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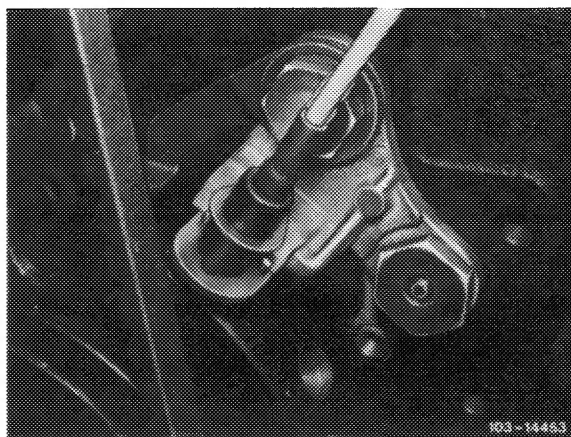
Conventional tools

Cylinder leak tester	e.g. made by Bosch, EFAW 210 A or SUN, CLT 228
Dial gauge A 1 DIN 878	e.g. made by Mahr, D—7300 Esslingen order no. 810

Note

Only engines installed in model 123, are provided with a TDC transmitter.

Pin in vibration damper should be accurately underneath TDC transmitter when in crankshaft position 20° after TDC.

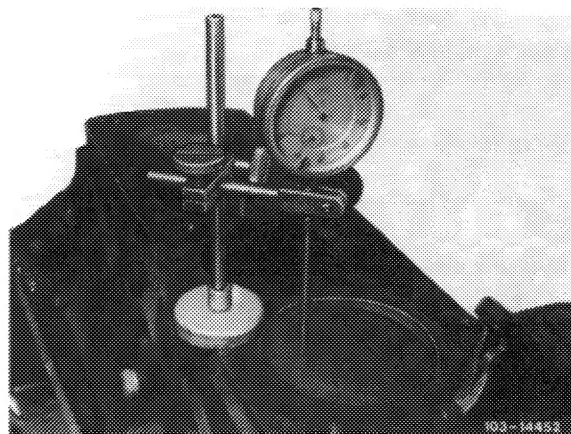


Check adjustment of TDC transmitter and make corrections, if required:

- a) When renewing TDC transmitter adjusting slide.
- b) When renewing crankshaft with balancing disc.
- c) When completing basic engines.

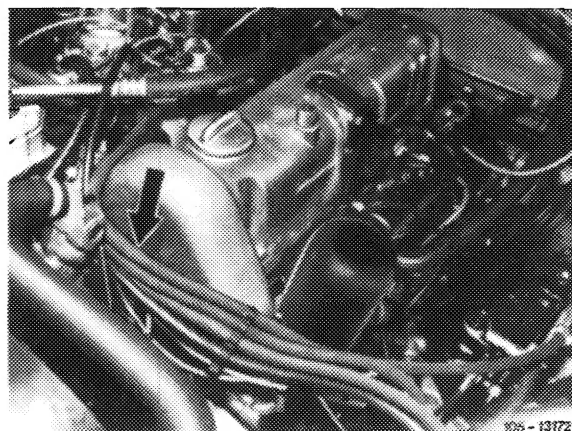
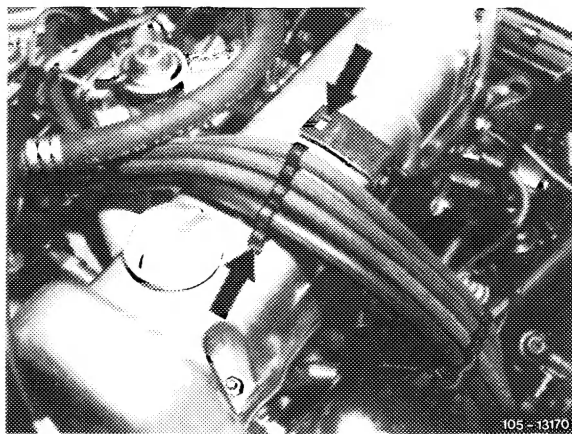
With the cylinder head removed, the measuring pin of the dial gauge can be set directly on piston crown. For this purpose, place magnetic dial gauge holder on cylinder crankcase parting surface.

For adjusting TDC transmitter, proceed in this case according to item 6, 13 and 17-24.



Checking

1 Remove cylinder head cover. For this purpose, on (AUS), (J), (S) and (USA) starting 1977, push out clamp assembly for fuel hoses on holder and pull down fuel hoses with clamp assembly in forward direction over cylinder head cover.



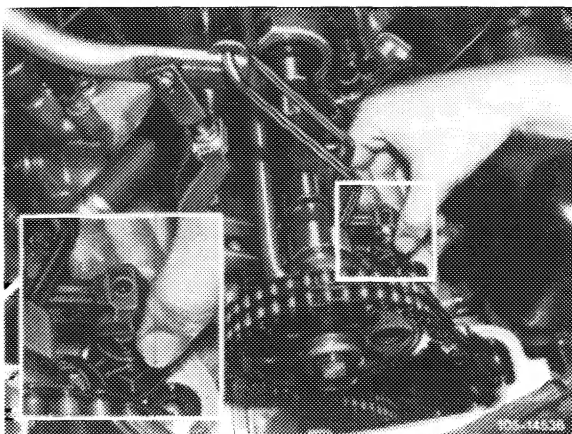
2 Remove V-belt of alternator. On vehicles with air conditioner, slacken V-belt of refrigerant compressor.

On vehicles (AUS), (J), (S) and (USA) starting 1977, remove all V-belts except V-belt of air pump.

3 Remove rocker arm on intake valve of 1st cylinder (05-230).

4 Remove thrust piece.

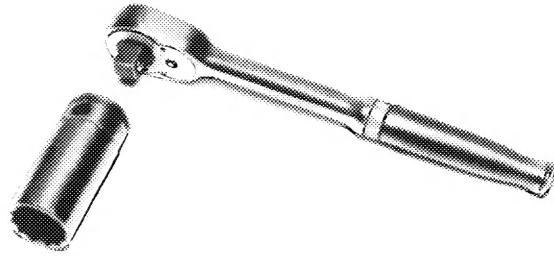
5 Unscrew spark plug of 1st cylinder.



6 Set piston of 1st cylinder to ignition TDC. For this purpose, rotate crankshaft with tool combinations.

7 Connect cylinder leak tester to a compressed air system and screw connecting hose into 1st spark plug bore.

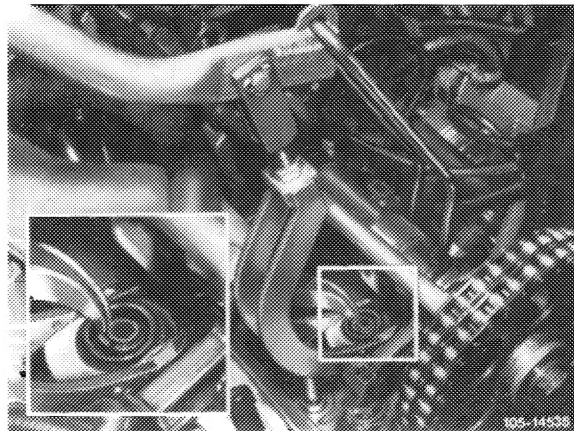
Put cylinder under pressure. Crankshaft should not rotate.



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8 Push valve spring down with removal and installer for rocker arm and remove valve cone halves with magnetic finger.

9 Remove valve spring together with valve spring retainer.



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10 Push off valve stem seal with a screwdriver or pull off with pliers.

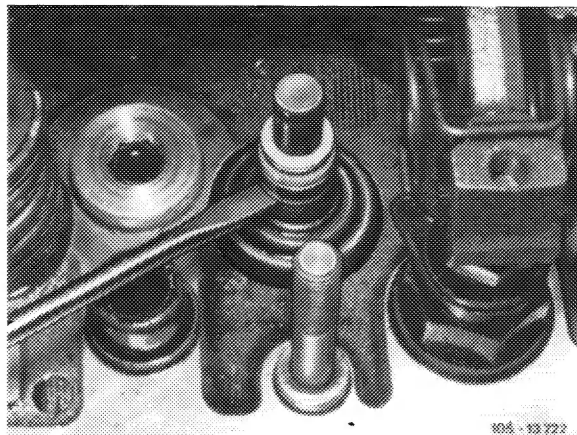
Attention!

Do not damage valve stem and valve guide.

11 Disconnect cylinder leak tester.

12 Push valve on piston crown.

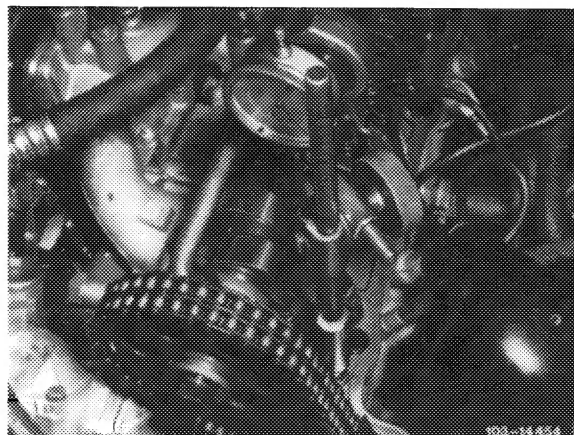
13 Turn back crankshaft for approx. 10° by means of tool combination.



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14 Screw dial gauge holder with threaded sleeve to stud in cylinder head.

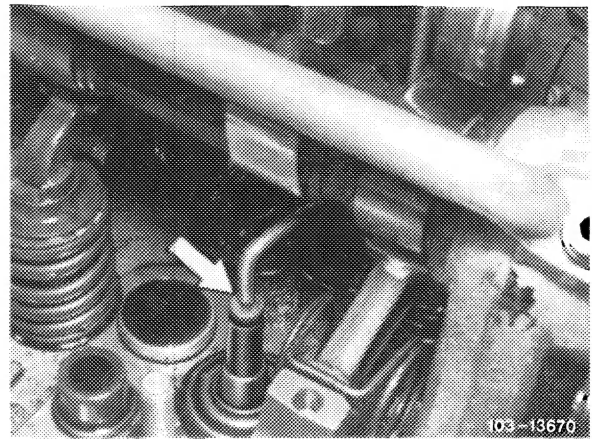
15 Insert dial gauge and screw measuring arm to dial gauge.



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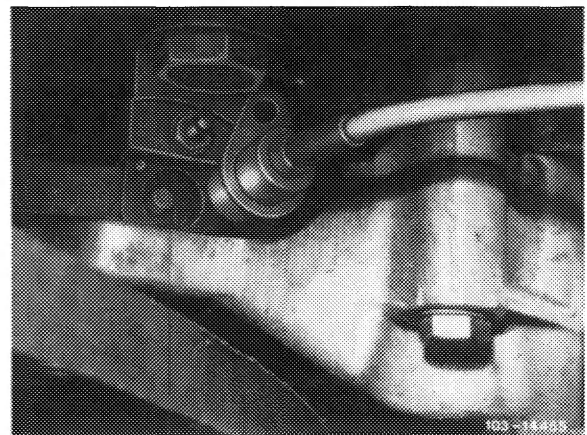
16 Place measuring arm with 2 mm pre-load on valve stem.

17 Slowly turn crankshaft with combination tool in rotating direction of engine until the large indicator of the dial gauge stops (TDC position).

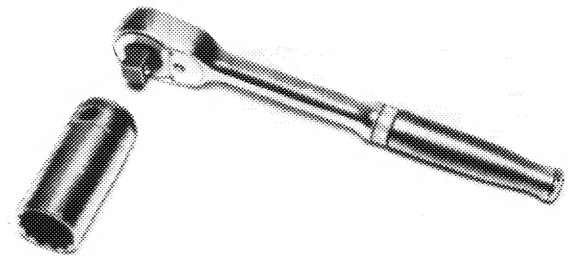


18 Unscrew TDC transmitter and pull out.

19 Loosen dial gauge and place measuring arm at 5 mm pre-load on valve stem. Turn dial gauge scale until the large indicator is pointing to zero.



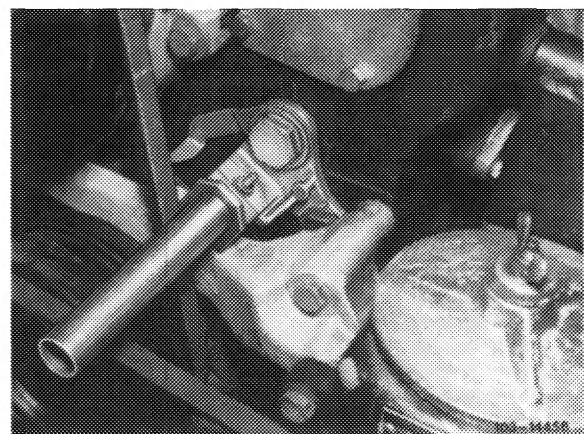
20 Slowly turn crankshaft with combination tool in rotating direction of engine, until the dial gauge shows a backswing of 3.20 mm.



21 Place locating device into adjusting slide.

Pin in vibration damper should engage in groove of locating device.

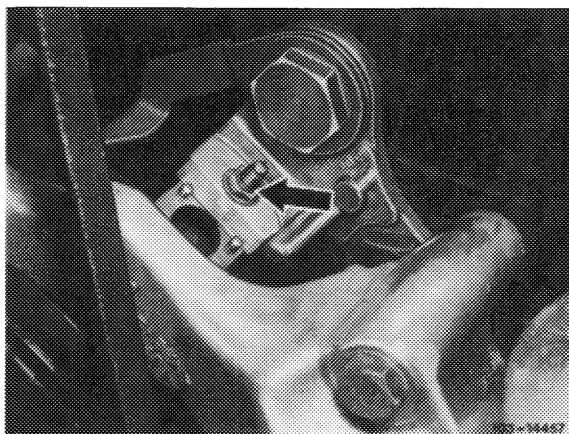
If the pin is not engaging, correct position of adjusting slide.



Corrections

22 Loosen adjusting slide and push until pin in vibration damper engages in groove in locating device.

23 Screw down adjusting slide and remove locating device.



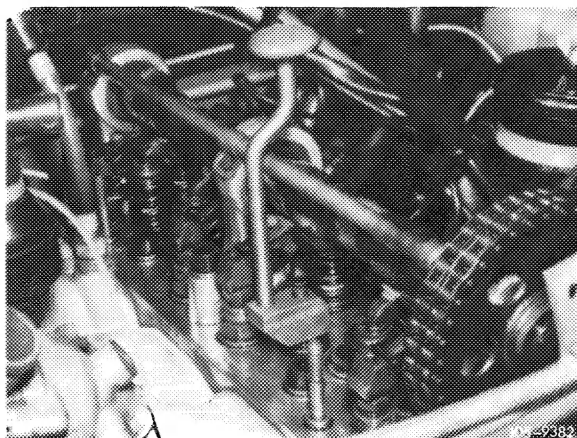
24 Insert TDC transmitter and screw down.

25 Remove dial gauge and unscrew dial gauge holder.

26 Lubricate new valve stem seal and fit by means of assembly mandrel. For this purpose, place an assembly sleeve on valve stem.

27 Install valve spring and rocker arm (05-250).

28 Check valve clearance (05-210).



29 Mount V-belt and tension.

30 Screw in spark plug.

31 Mount cylinder head cover.